AMENDMENTS

Please amend the application as indicated hereafter.

In the Specification

Please amend the specification as indicated below. The language being added is underlined ("___") and the language being deleted contains strikethrough ("—"):

For the paragraph beginning on page 4, line 28:

An illustrative embodiment of a communication network 10 employing the teachings of the present invention is shown in FIG. 1 and includes a plurality of stations--generally indicated at 12a-12e--that are configured to receive and transmit message units over a shared communication medium. As will be readily appreciated by those skilled in the art, various types of wired communication media such as, for example, ~~as~~ coaxial cable, twisted wire pairs of electrical conductors, and/or optical fiber, might be used to implement the requisite network interconnections between stations. In the illustrative example of FIG. 1, however, the stations form a wireless local area network (WLAN) and are adapted to communicate over a wireless medium 14 such as radio or optical frequency propagation through the interior space of an office building. Coupling of the stations in a WLAN arrangement, because it does not require physical or "hard-wired" connections, will often be especially advantageous when installing a new communication network within existing offices.

For the paragraph beginning on page 5, line 14:

Embodiments of the invention use a variety of radio or optical frequencies and transmission methods. In the illustrative embodiment of FIG. 1, the stations communicate using radio frequency spread spectrum ~~transmission~~ transmissions in the Industrial Scientific and Medical (ISM) band in the range of 2.4 GHz using an overall bandwidth of approximately 83 MHz. The transmission technique provides a raw system data rate of 1 Mb/s between stations. As will be readily ascertained by those skilled in the art, the transmission characteristics of the individual stations 12a-12e can vary according to such factors as the transmission power level, the physical distance between stations, the presence of any interfering structures betweens, and the proximity to any interfering signal sources. Accordingly, the achievable throughput over the communication medium may be substantially lower than the raw data rate.

For the paragraph beginning on page 5, line 29:

With reference now to FIG. 2, there is shown an arrangement of the hardware components of an exemplary network station--indicated generally at 12e. General purpose CPU 20e executes application programs 24 and communication modules 26 stored in working memory 28 such as dynamic RAM. Prior to initialization of the station, the application programs and communication modules are stored within a non-volatile memory 30 such as, for example, ~~as~~ a magnetic disk or read only memory (ROM). CPU 20e communicates with NIC 16e, these components being coupled to one another by, for example, a PCMCIA or ISA bus.

For the paragraph beginning on page 9, line 12:

In accordance with the illustrative embodiment of the present invention, every station maintains, for each queue, a contention window ~~(CW[i)~~ (CW[i]) parameter and also Queue Short and Long Retry Counts (QSRC[i] and QLRC[i], respectively) that take an initial value of zero. A QSRC[i] is incremented whenever a respective Queue Short Retry Count associated with a message data unit in a corresponding queue is incremented. A QLRC[i] is incremented whenever a respective Queue Long Retry Count associated with a data in a corresponding queue is incremented. As best seen in FIG. 5, the contention window CW[i] of a queue takes the next value in a series every time an unsuccessful attempt to transmit a message data unit causes either Retry Counter of that queue to increment, until CW[i] reaches the value of CWmax. A retry is defined as an entire sequence of frames sent, separated by QIFS intervals, in an attempt to deliver a message data unit. Once it reaches CWmax, the contention window of a queue remains at the value of CWmax until it is reset. This improves the stability of the access protocol under high load conditions. It should be noted that although a single value of CWmax common to all stations is suggested in FIG. 5, it is also possible to provide differentiated CWmax[i] values for the respective queues.

For the paragraph beginning on page 12, line 21 to the paragraph beginning on page 13, line 12:

On the arrival of a data message unit in queue[i], the process proceeds from idle block 100 to decision block 102. At block 102, if the medium is determined to be idle for longer than QIFS[i], the back off counter is set to zero and the process advances to

decision block 104. At decision block 104, a check is made to make sure that no higher priority queue has a message data unit scheduled for transmission during the same transmission opportunity. That is, a check is made to see if the back off counter of another, higher priority queue has also been set to zero. If the check at decision block determines that no higher priority queue intends to utilize the same transmit opportunity, and therefore confirms that it is OK to transmit, an attempt is made at block 106 to transmit the message data unit from the current queue.

BACKOFF:

If, however, sensing of the ~~them~~ medium at decision block 102 indicates that the medium has not yet been idle long enough, the contention window CW[i] for queue[i] is set to CWmin[i] and the back off counter BC[i] is set to count down from a random value between 0 and CW[i]. The process then proceeds to back off procedure block 108.

At block 108, for each idle time slot subsequent to the medium having been idle for QIFS[i], the back off counter decrements one from counter BC[i]. Once the back off counter BC[i] reaches zero, the process enters decision block 110. If there is a message data unit in the queue requiring transmission, the process advances to block 104 to make sure no higher priority message data unit is to be transmitted during the same transmission opportunity. If the check at block 104 is OK, an attempt is made at block 106 to transmit the message data unit from the queue. If the check at block 110 determines that no message data units remain in the queue, the process returns to the idle state at block 100.

Transmit:

If no higher priority back off counter is set to zero at decision block 104, an attempt is made to transfer a <u>message data unit</u> from the queue. If no acknowledgement is received, a retry procedure is implemented. After a successful transmission, retry counters (described below) are reset if appropriate, the <u>message data unit</u> is advanced out of the queue, the contention window CW[i] for that queue is set to CWmin[i], the back off counter BC[i] is set to a random value between 0 and CW[i] and the process proceeds to back off block 108. If a transmission fails, the retry procedure is implemented.

For the paragraph beginning on page 13, line 30:

Each time the retry procedure is invoked for a <u>message data unit</u>, a retry counter is incremented at block 112 until a limit is reached. If the corresponding retry limit for a queue has not been exceeded, its contention window CW[i] is set to a value between 2.times.CWmin[i] and CWmax. The corresponding back off counter is set to a random value between 0 and CW[i] and the procedure returns to back off block 108. Once the retry limit has been exceeded, the appropriate retry counters are reset, the message data unit is removed from the queue, and CW[i] and back off counter BC[i] is re-initialized to CWmin[i] and a random value between 0 and CWmin[i], respectively.